

FIG. 1

PhenoSense™ HIV Resistance Test Vector.

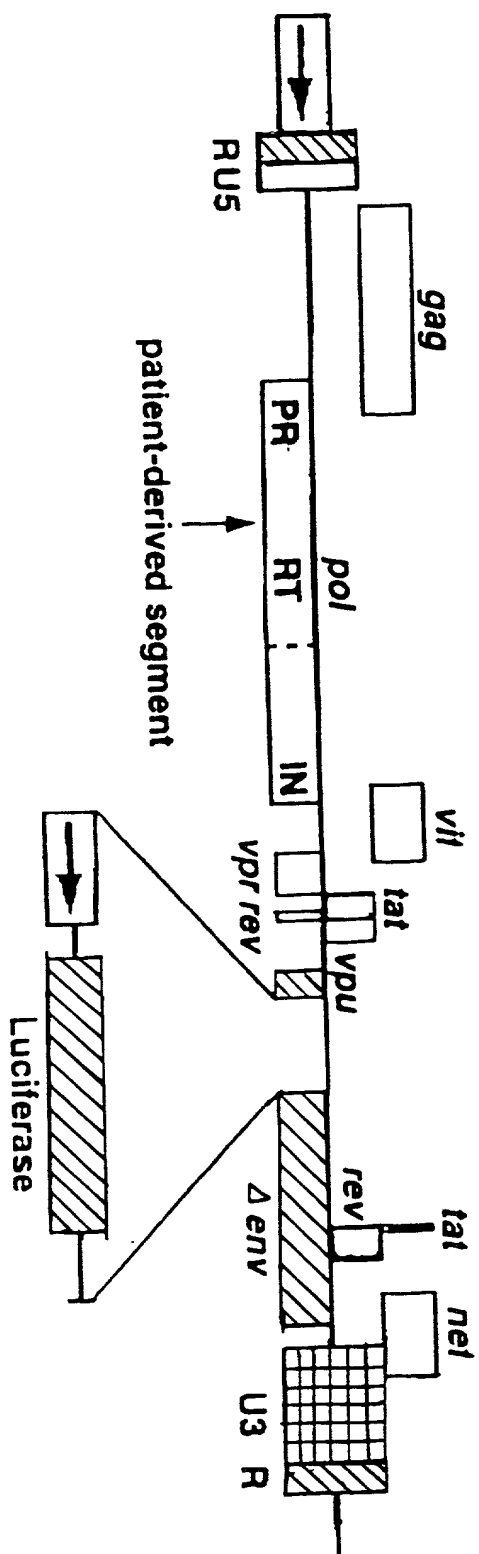


FIG. 2

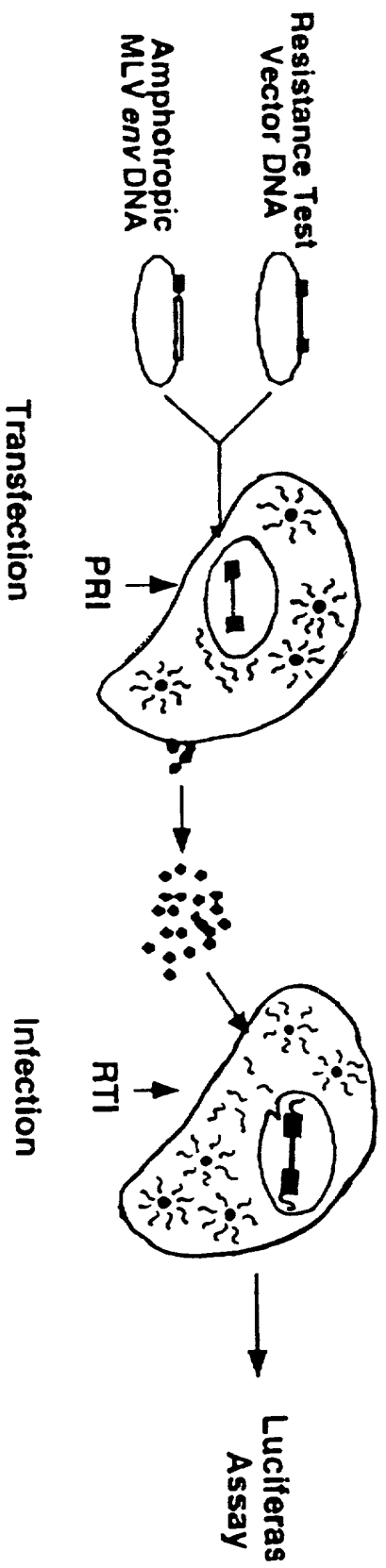
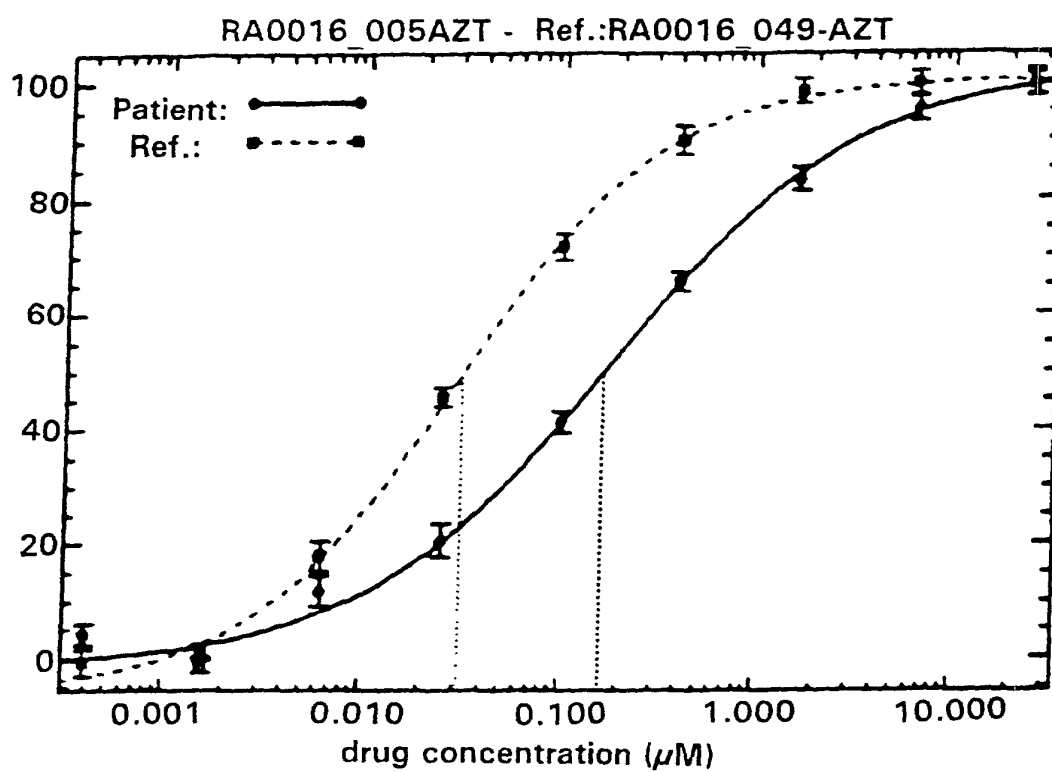
PhenoSense™ HIV Schematic Diagram.

FIG. 3A

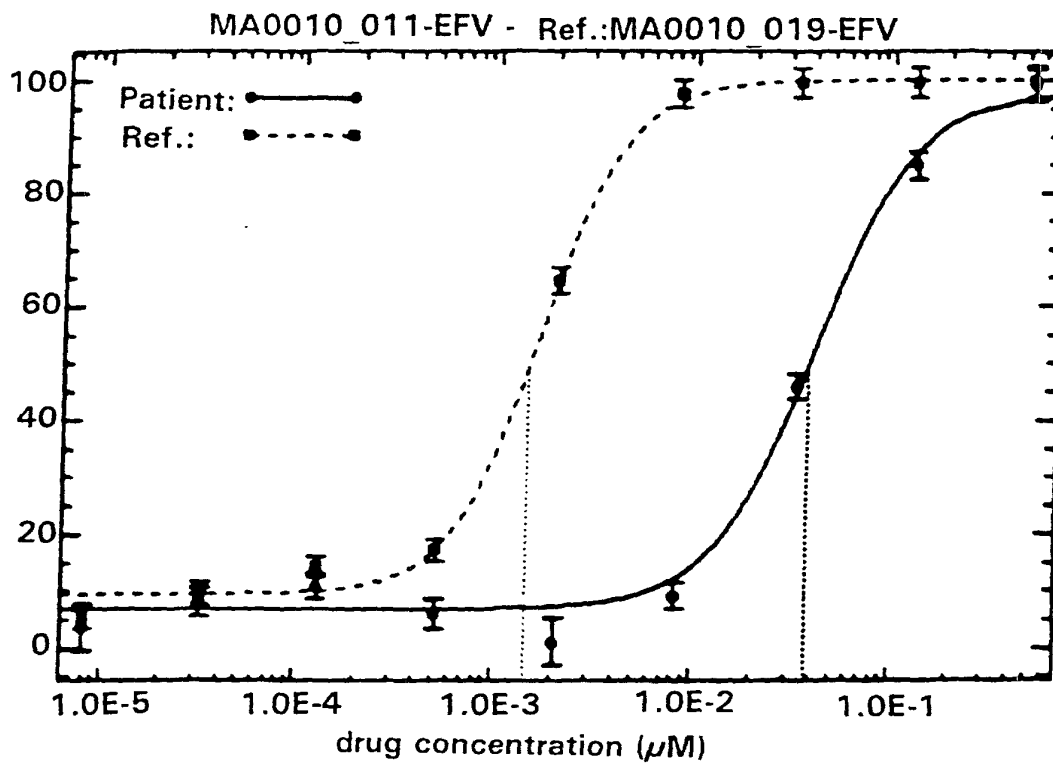
NRTI - AZT



AZT-Control	$\text{IC}_{50} = 0.032$
AZT-Patient	$\text{IC}_{50} = 0.170$ (5.2-fold)

3/22/1

FIG. 3B NNRTI - Efavirenz



EFV-Control

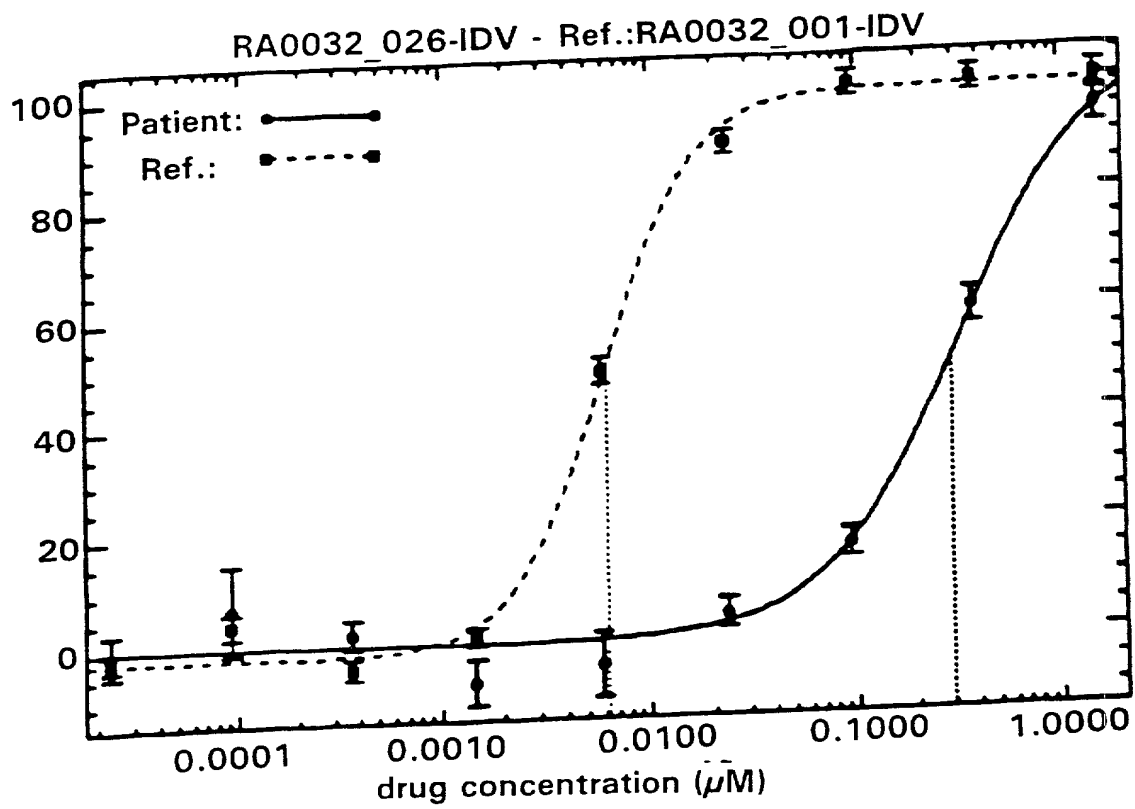
$\text{IC}_{50} = 0.0015$

EFV-Patient

$\text{IC}_{50} = 0.0380$ (25.6-fold)

3/22/2

FIG. 3C PRI - Indinavir



IDV-Control
IDV-Patient

$\text{IC}_{50} = 0.0062$
 $\text{IC}_{50} = 0.2935$ (47.4-fold)

4/22

FIG. 4A SQV

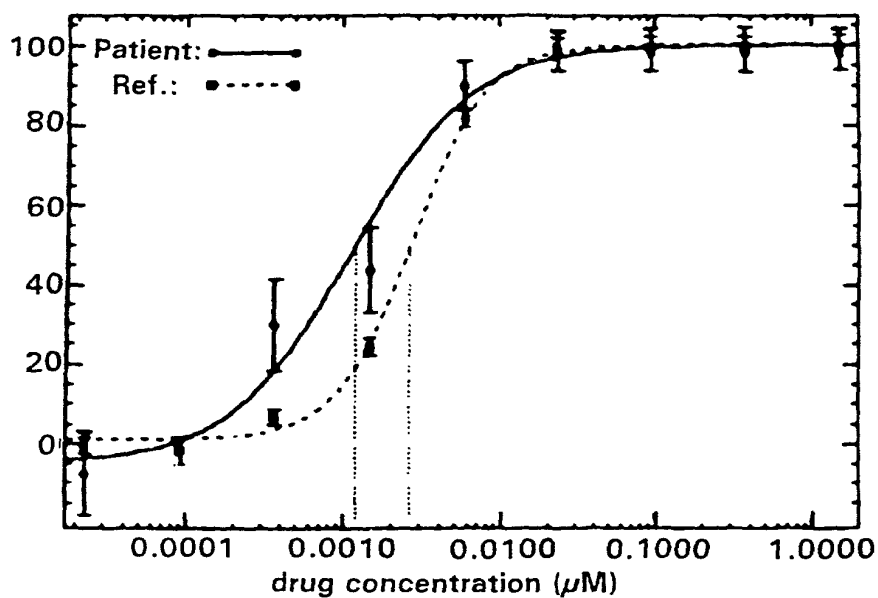
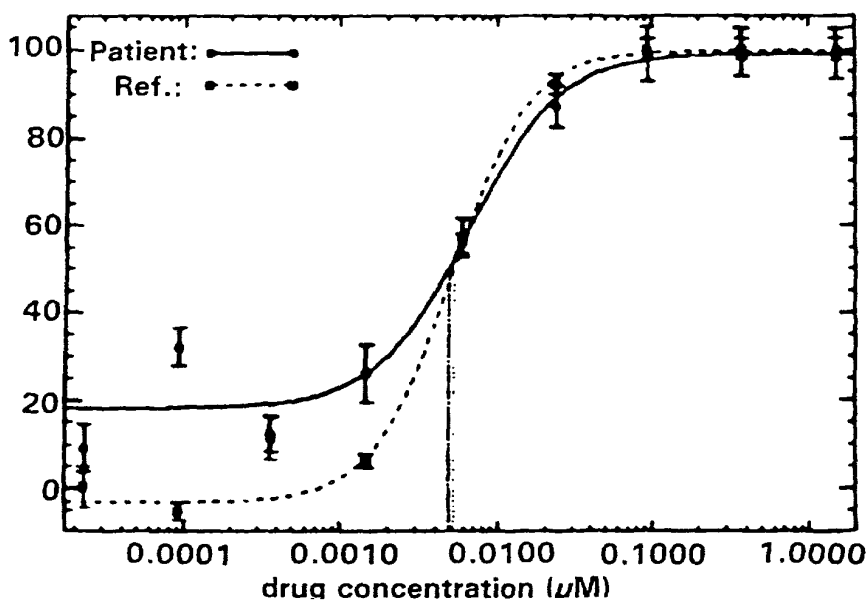


FIG. 4B IDV



4/22/1

FIG. 4C RTV

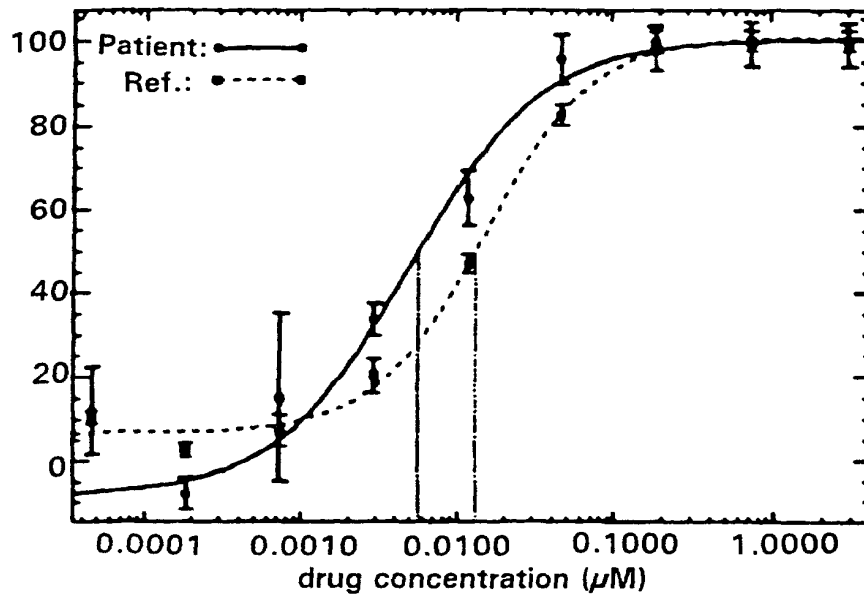
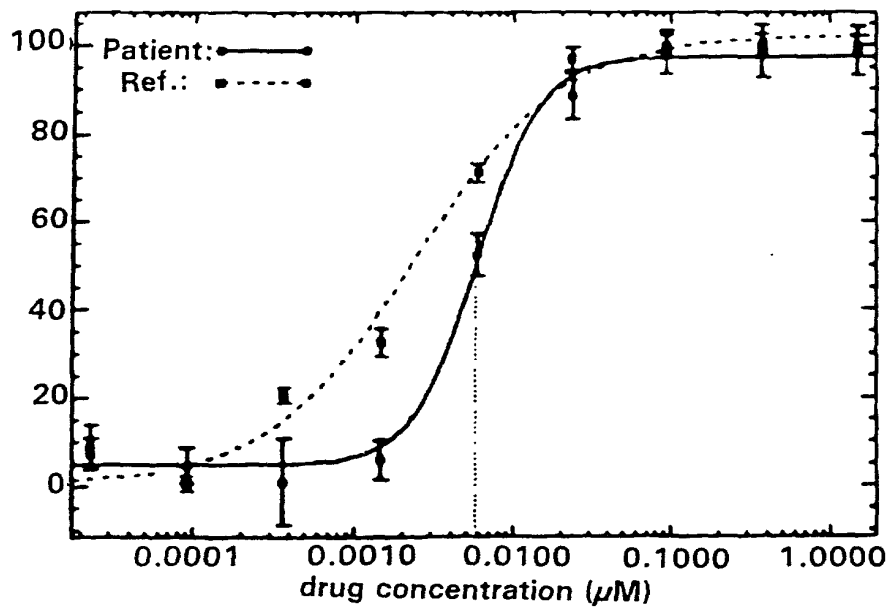
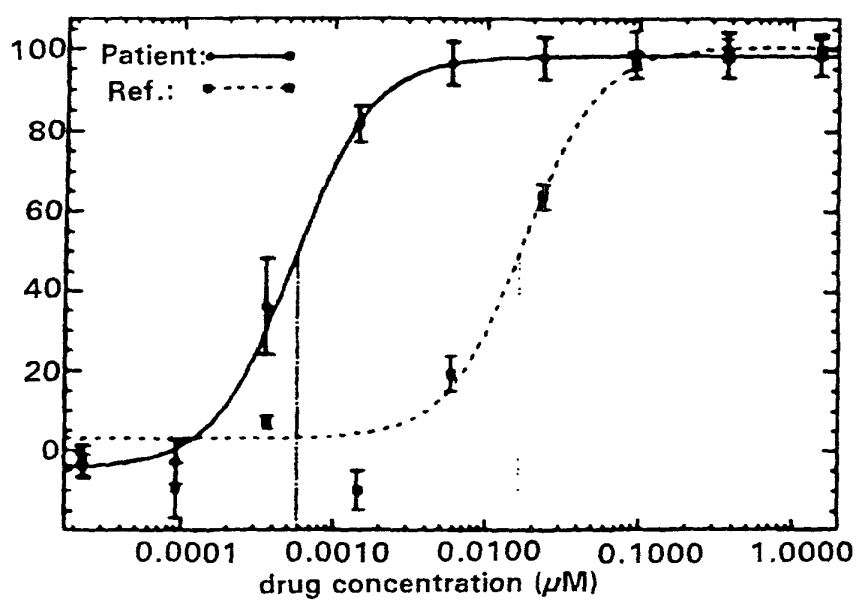


FIG. 4D NFV



4/22/2

FIG. 4E AMP



5/22

FIG. 5A SQV

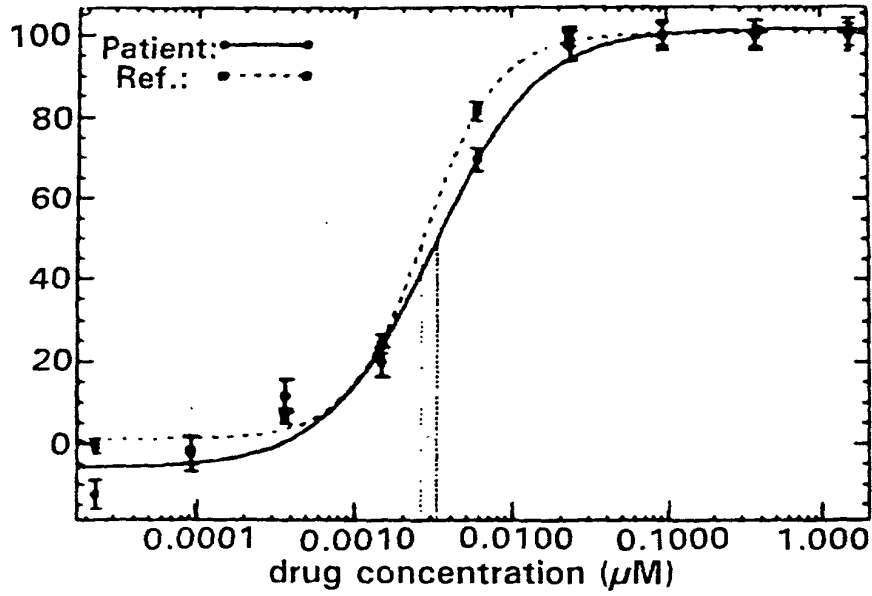
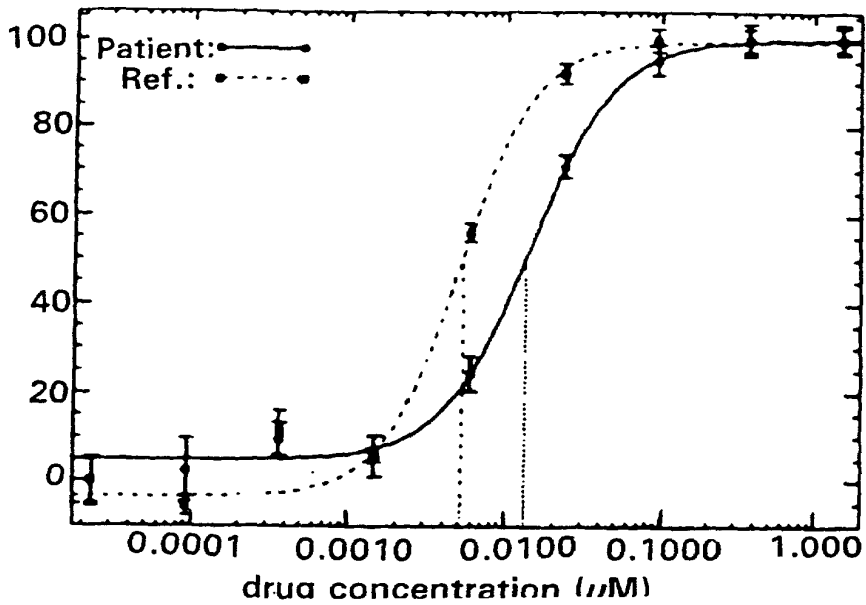


FIG. 5B IDV



5/22/1

FIG. 5C RTV

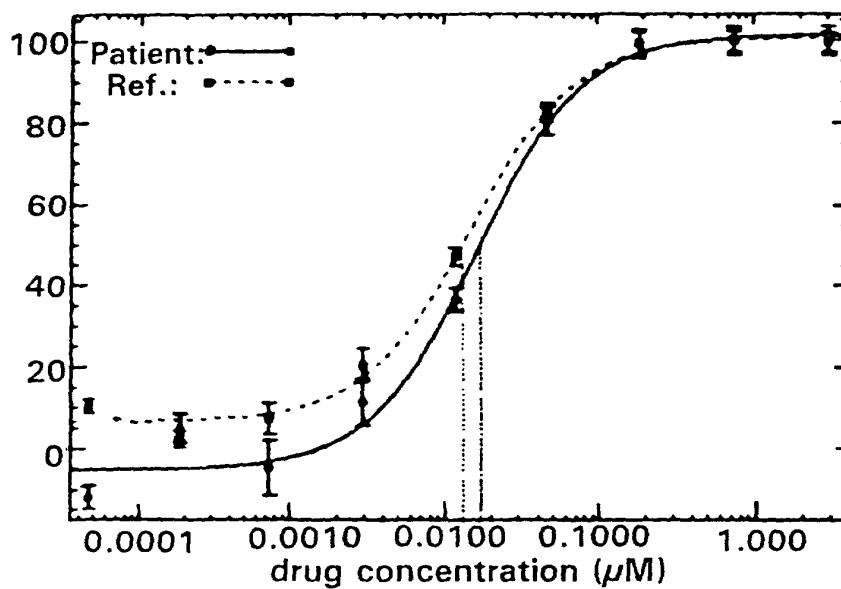
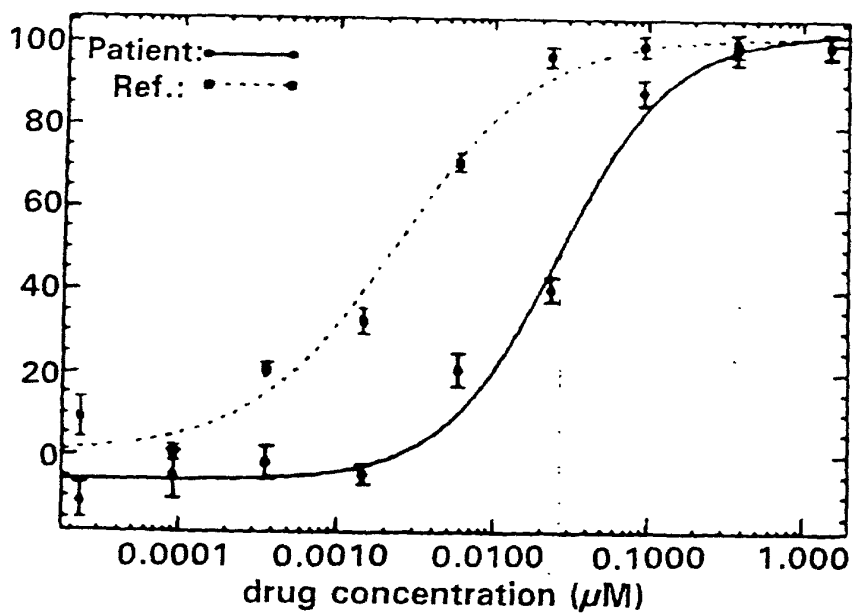


FIG. 5D NFV



5/22/2

FIG. 5E AMP

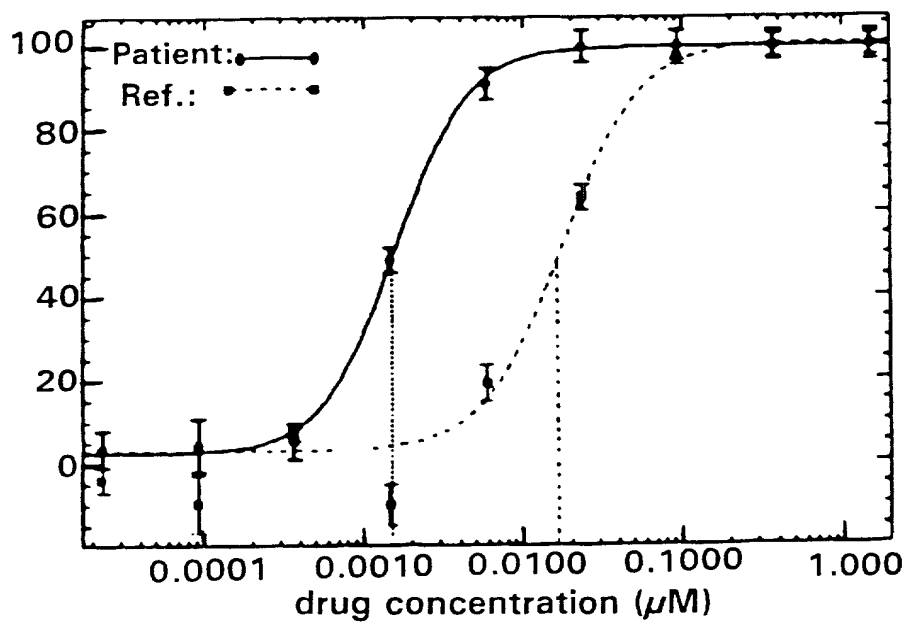


Figure A: Fitness Assav

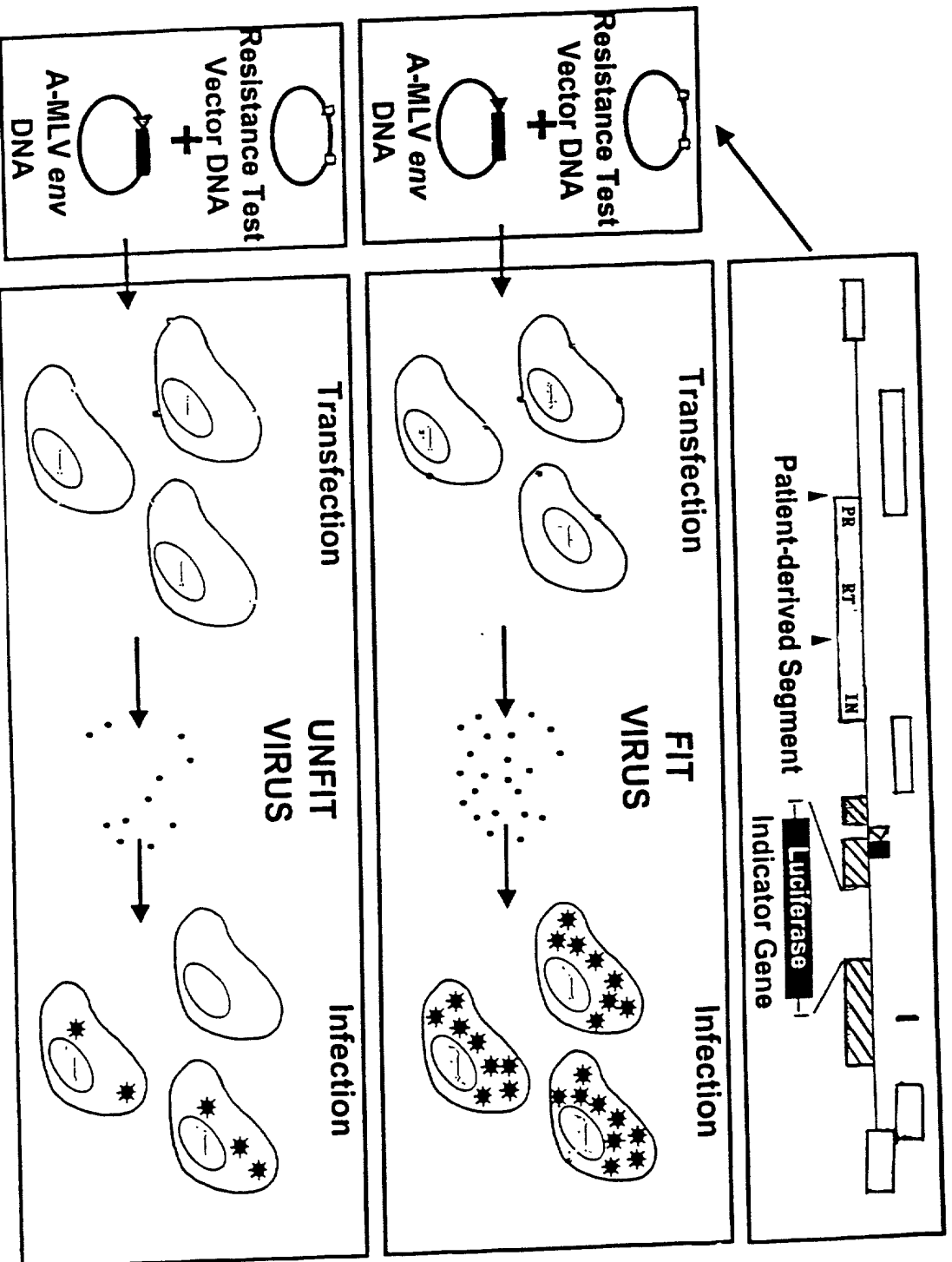


Figure B: Luciferase Activity in Infected Cells

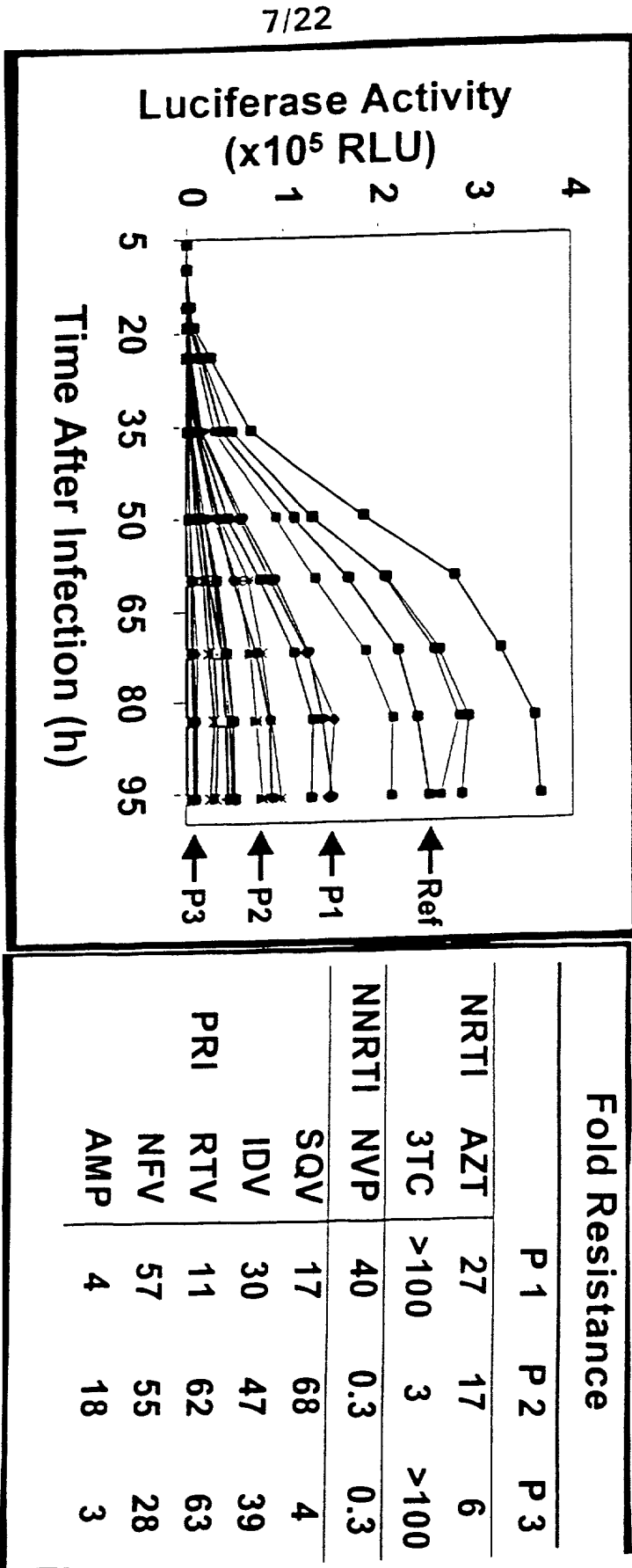
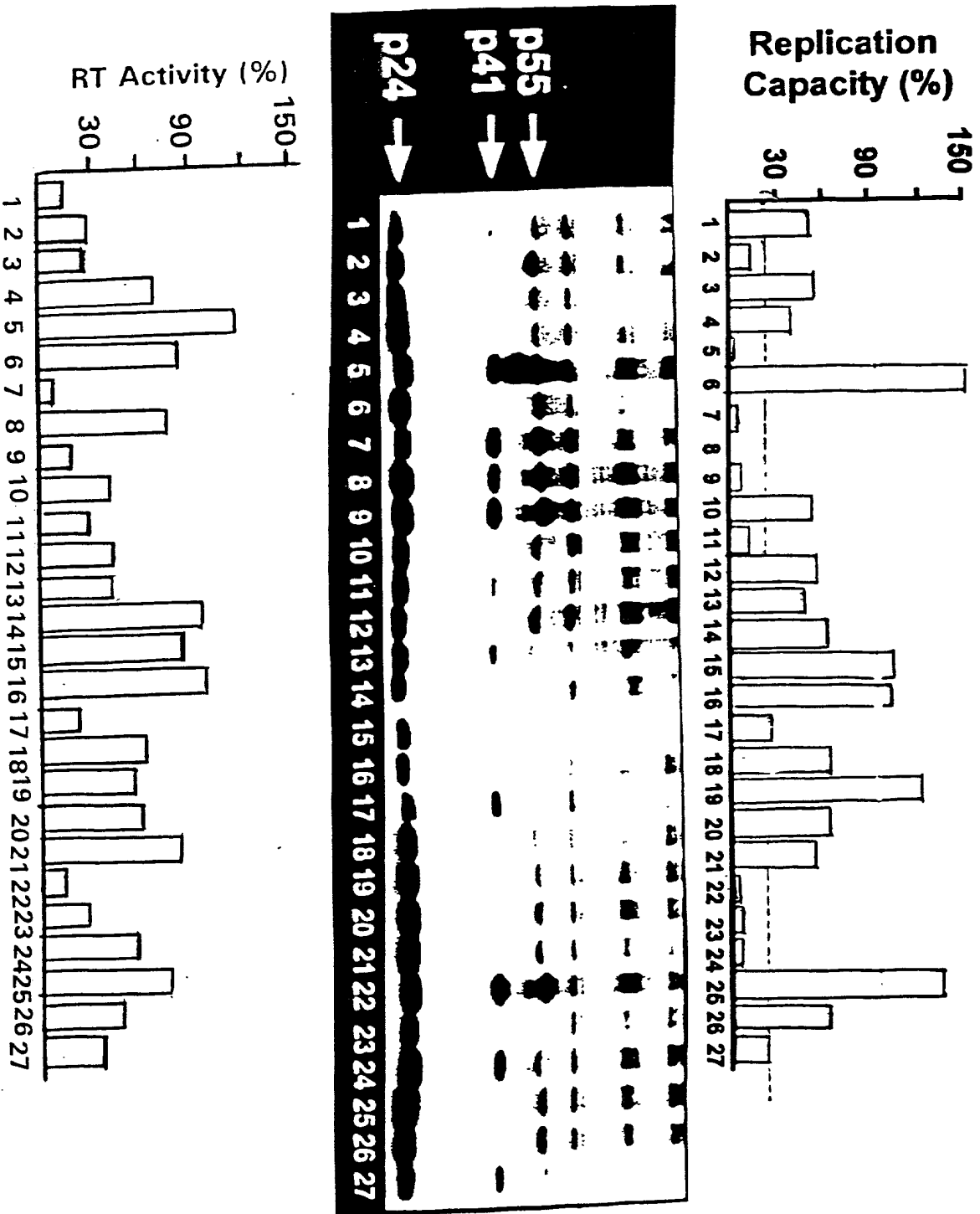
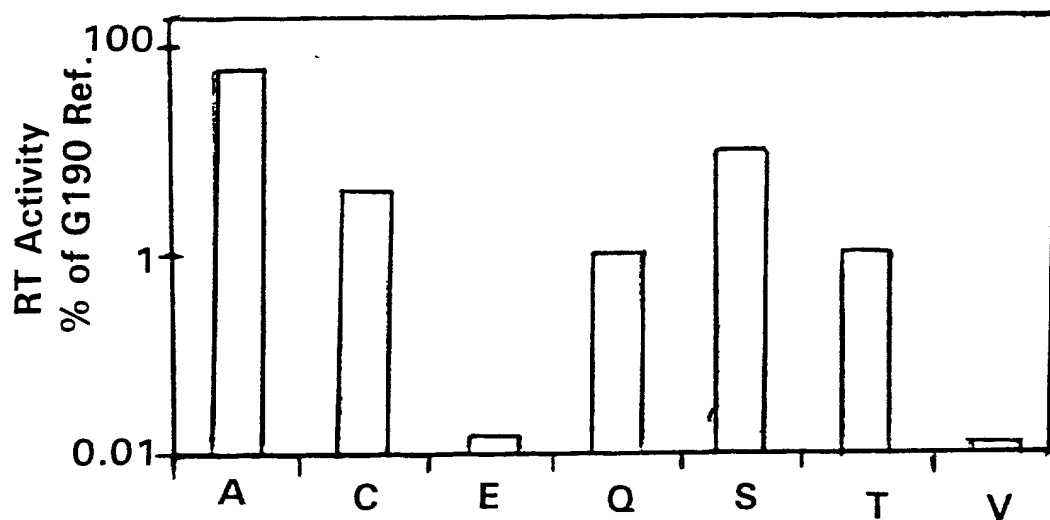
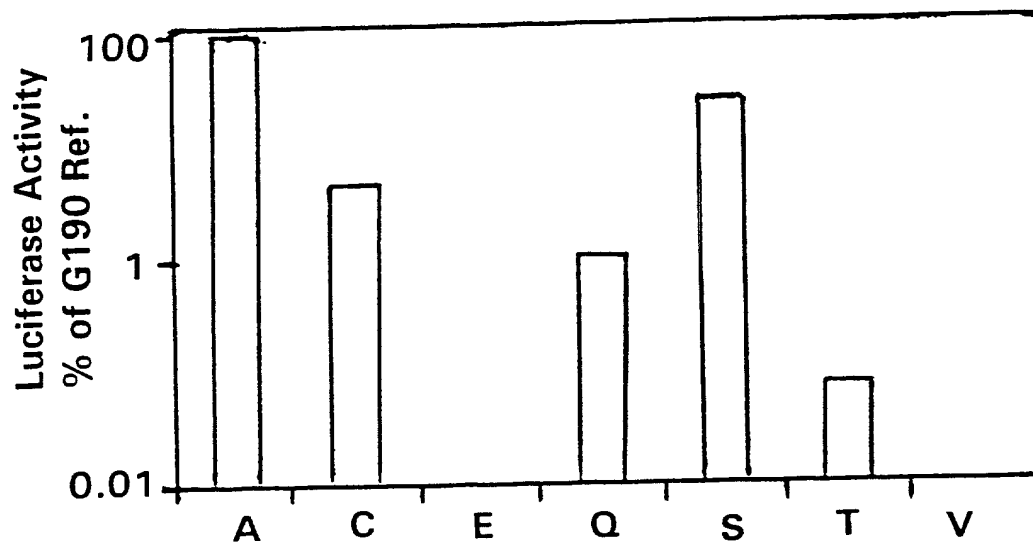


Figure C: Replication Fitness, PR Processing, and RT Activity



9/22

Figure D: Site Directed RT Mutants (G190 Series)

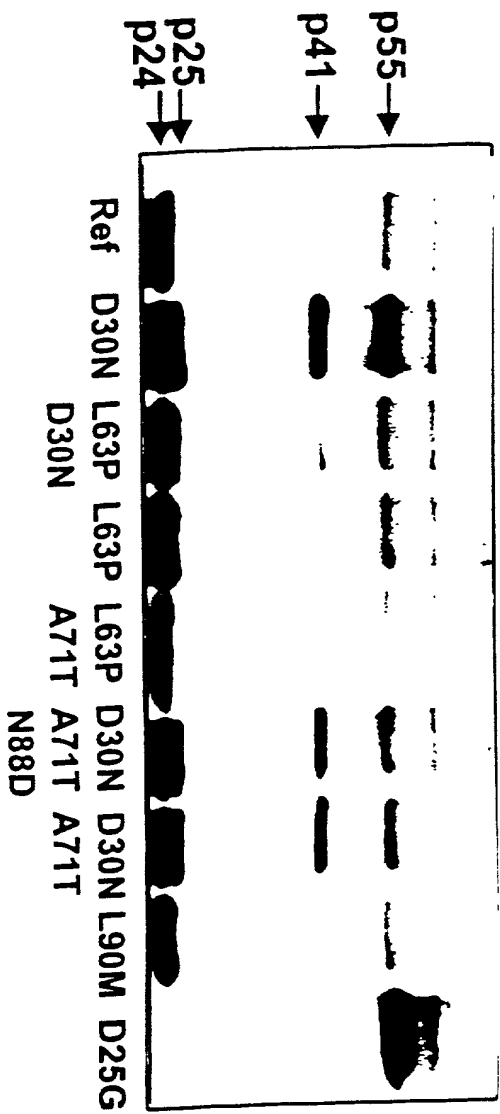
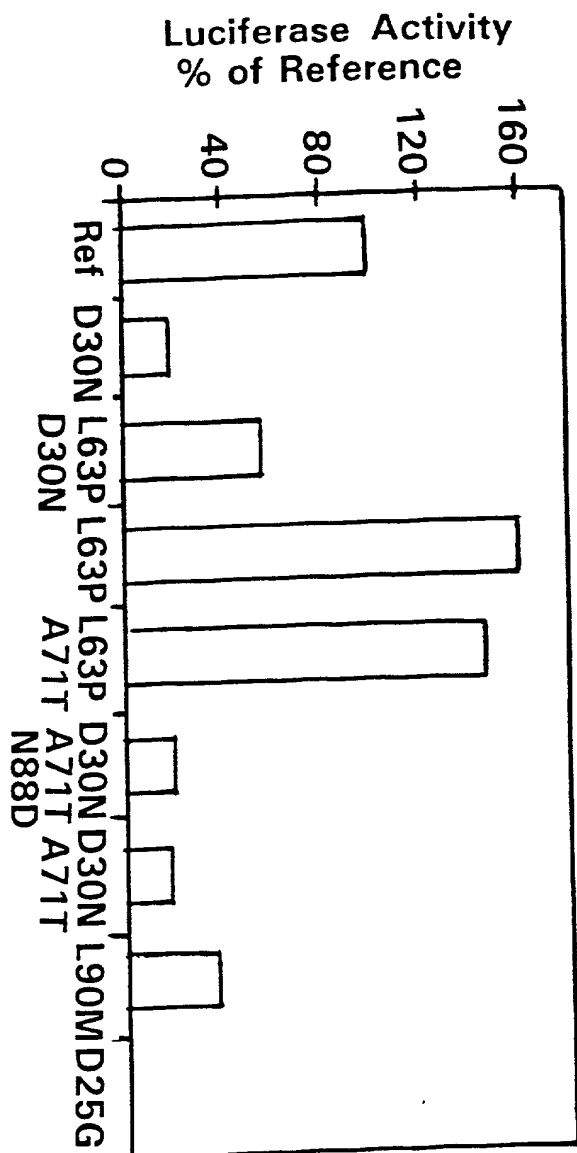


G190 Mutants

A = Ala	C = Cys
E = Glu	Q = Gln
S = Ser	T = Thr

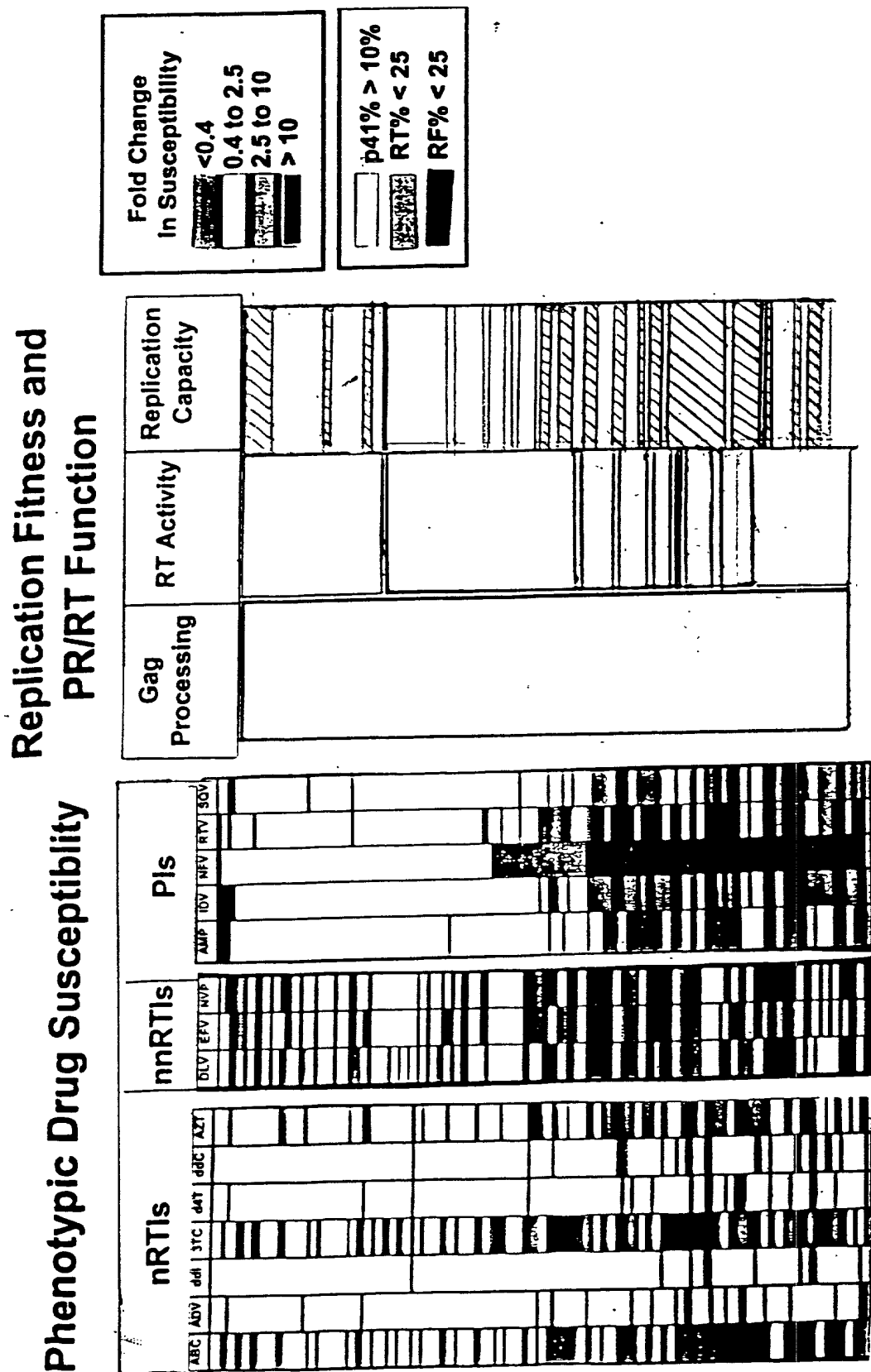
10/22

Figure E: Site Directed PR Mutants



09755344.011901

Figure F: Phenotypic Drug Susceptibility, Replication Fitness and PR/RT Function



**Figure G: Relation of PI Resistance to
Replication Capacity**

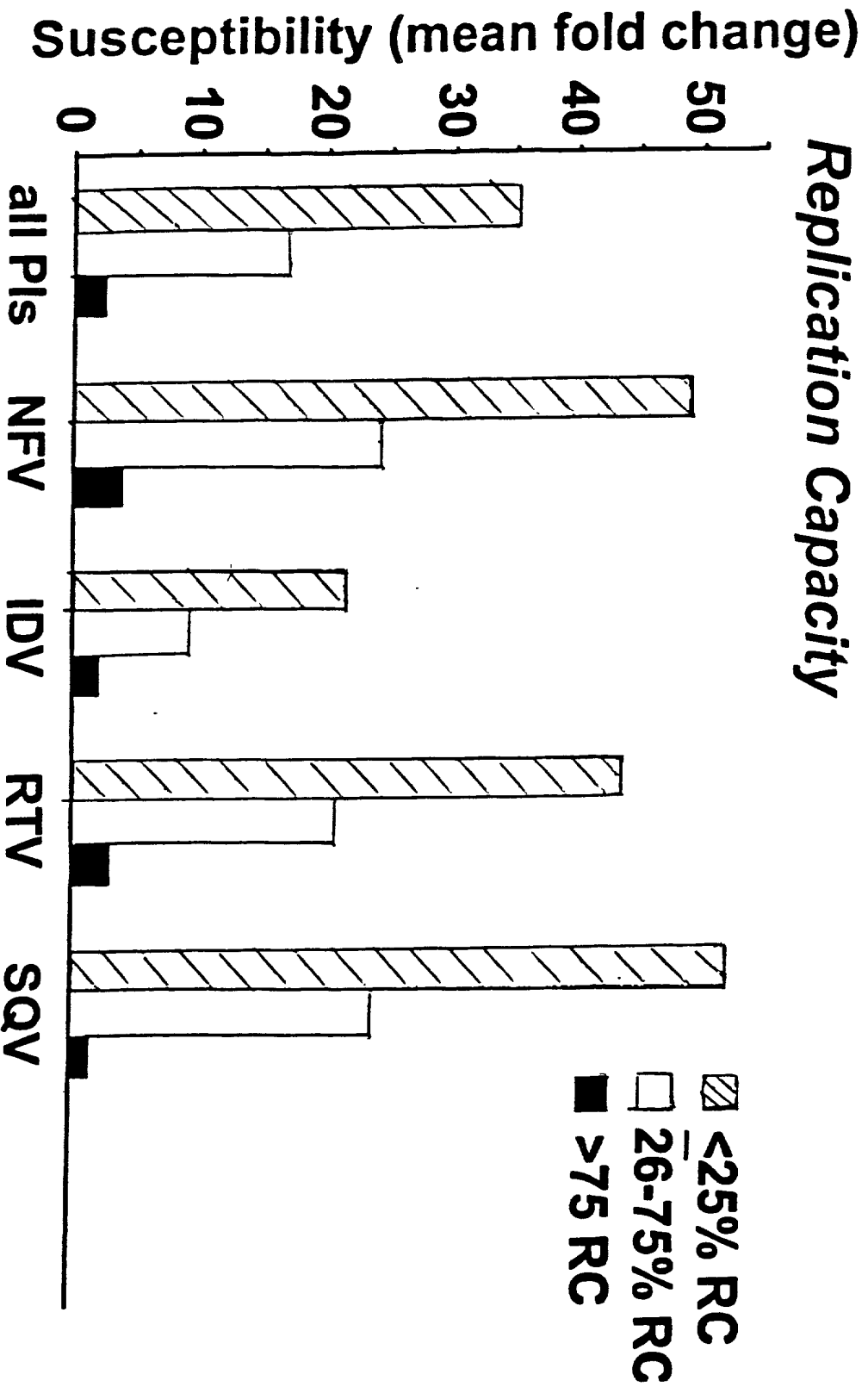


Figure H: Relation of NRTI and NNRTI Resistance to Replication Capacity

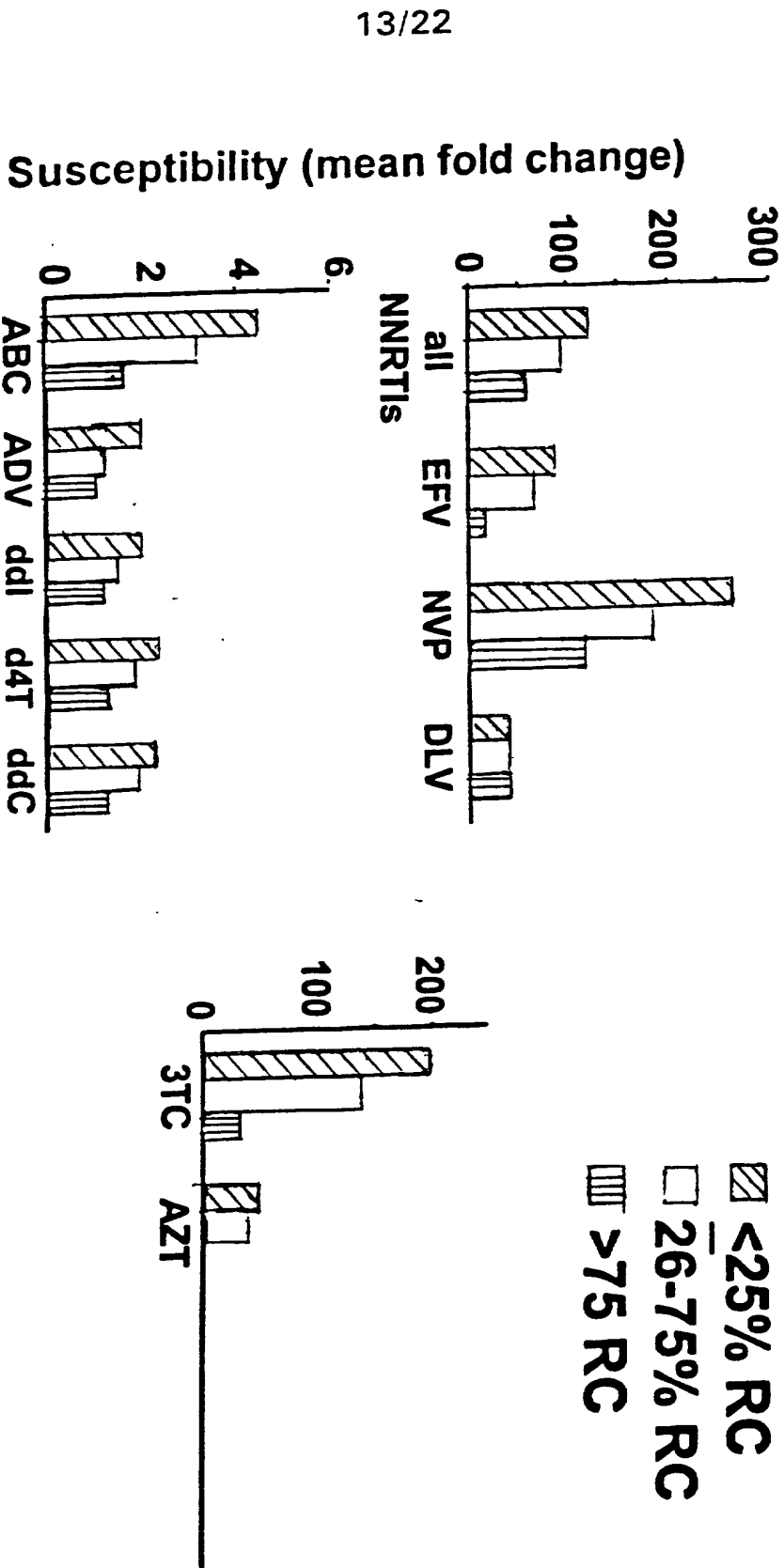


Figure I: Low Replication Capacity is Associated with High Numbers of Mutations in Protease and L90M

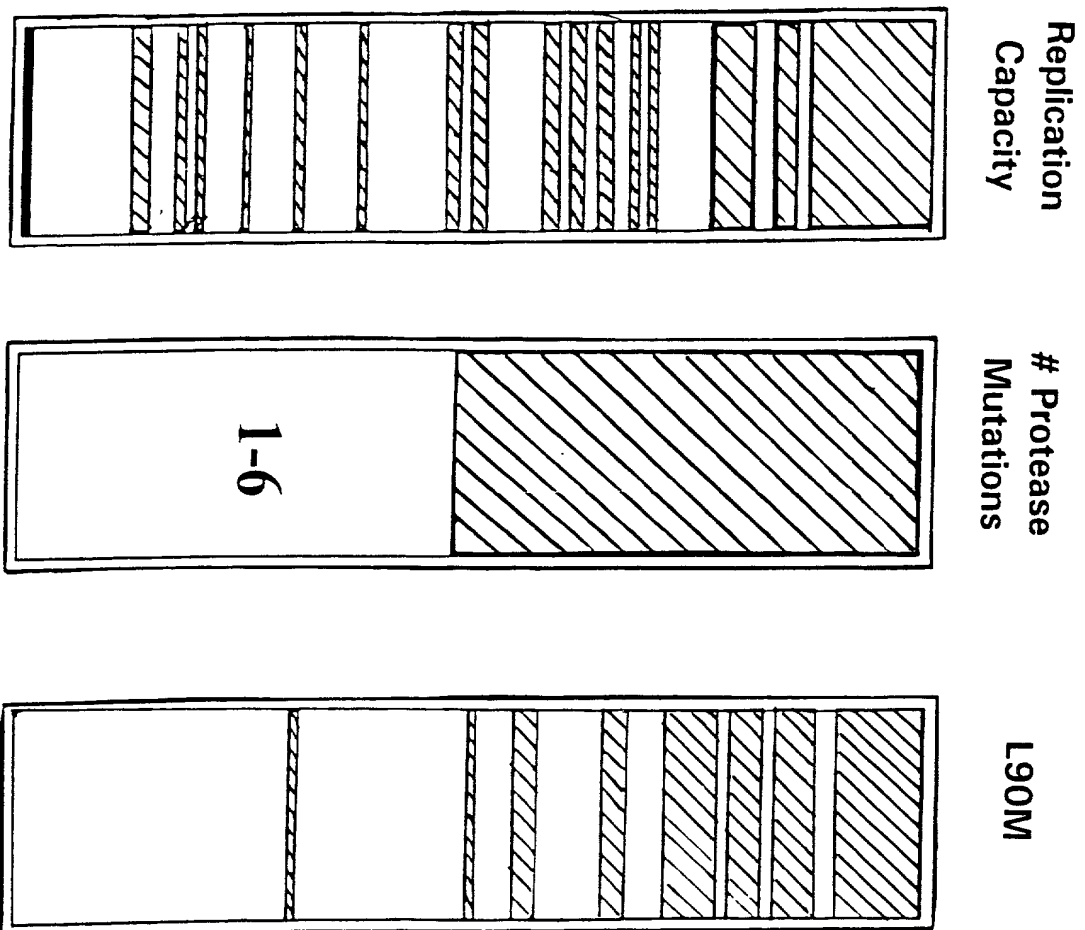
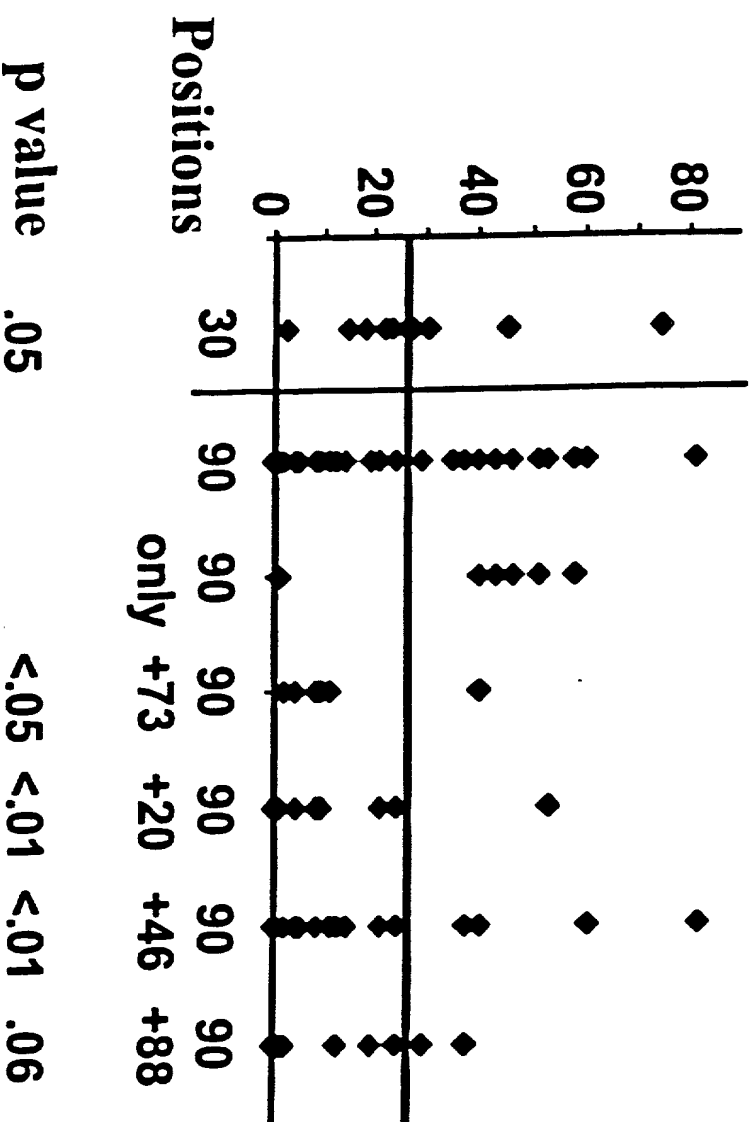


Figure J: Low Replication Capacity is Associated With Specific Protease Mutations

- D30N
- L90M PLUS mutations at 73, 20, 46, or 88



Gag Processing

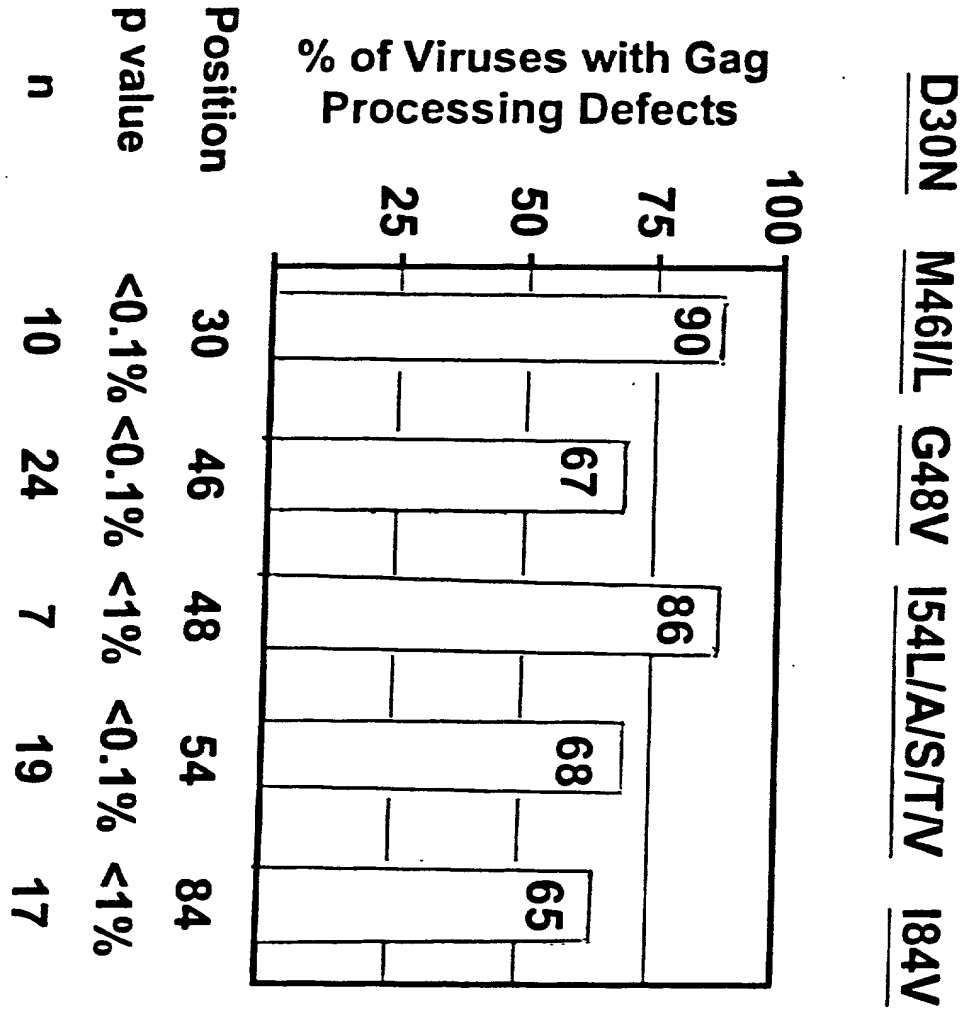
Replication Capacity (%)

Normal Incomplete

▲ NFV Susceptibility <10X
▲ NFV Susceptibility >10X

%p41 in virions

Figure L: Mutations in PR Associated with Gag Processing Defects



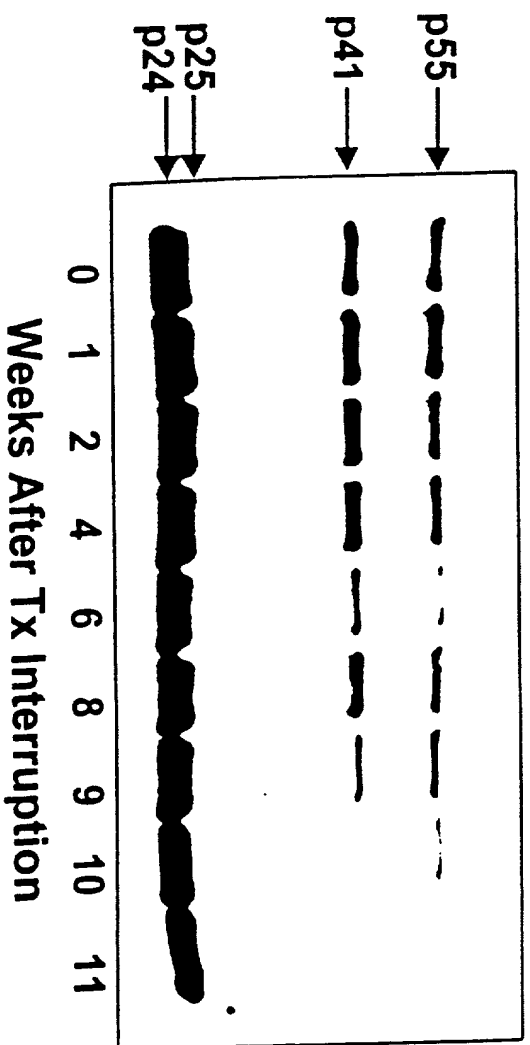
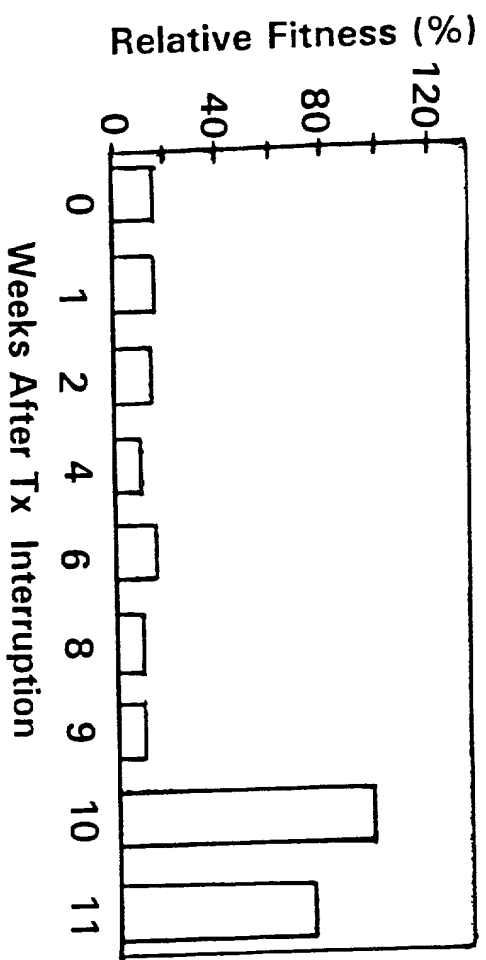
		NRTI			NNRTI				PI				
WEEK	AZT	3TC	D4T	ABC	NVP	DLV	EFV	SQV	IDV	RTV	NFV	AMP	
day 0	3.7	>100	2.8	19	>300	88	115	85	72	73	74	16	
1	4.5	>100	3.3	20	>300	78	134	95	74	59	80	21	
2	5.8	>100	3.2	14	>300	75	142	89	77	49	59	19	
3	6.5	>100	2.7	15	>300	96	183	59	75	52	51	15	
4	6.3	>100	3.1	15	>300	94	174	59	68	50	49	15	
5	6.4	>100	3.0	17	>300	76	119	59	60	54	36	10	
6	5.0	>100	2.8	19	>300	93	168	89	39	80	40	18	
7	9.1	>100	4.1	12	>300	89	154	85	78	53	53	19	
9	2.8	8.1	1.9	5.0	22	15	10	1.8	3.5	4.7	4.0	2.0	
10	1.5	1.7	1.1	1.3	1.7	2.0	1.6	0.9	1.6	1.9	1.8	1.6	
11	0.9	1.2	1.0	1.2	0.8	1.1	0.9	1.0	1.1	1.1	1.1	1.0	
12	0.8	1.3	0.8	1.2	0.5	1.0	0.8	0.8	0.8	0.9	1.1	0.8	
23	0.7	1.1	1.0	0.6	0.8	1.1	0.8	0.8	0.8	1.0	0.9	0.6	

18/22

Figure M: Patient Virus Reversion to Drug Susceptibility after Treatment Interruption

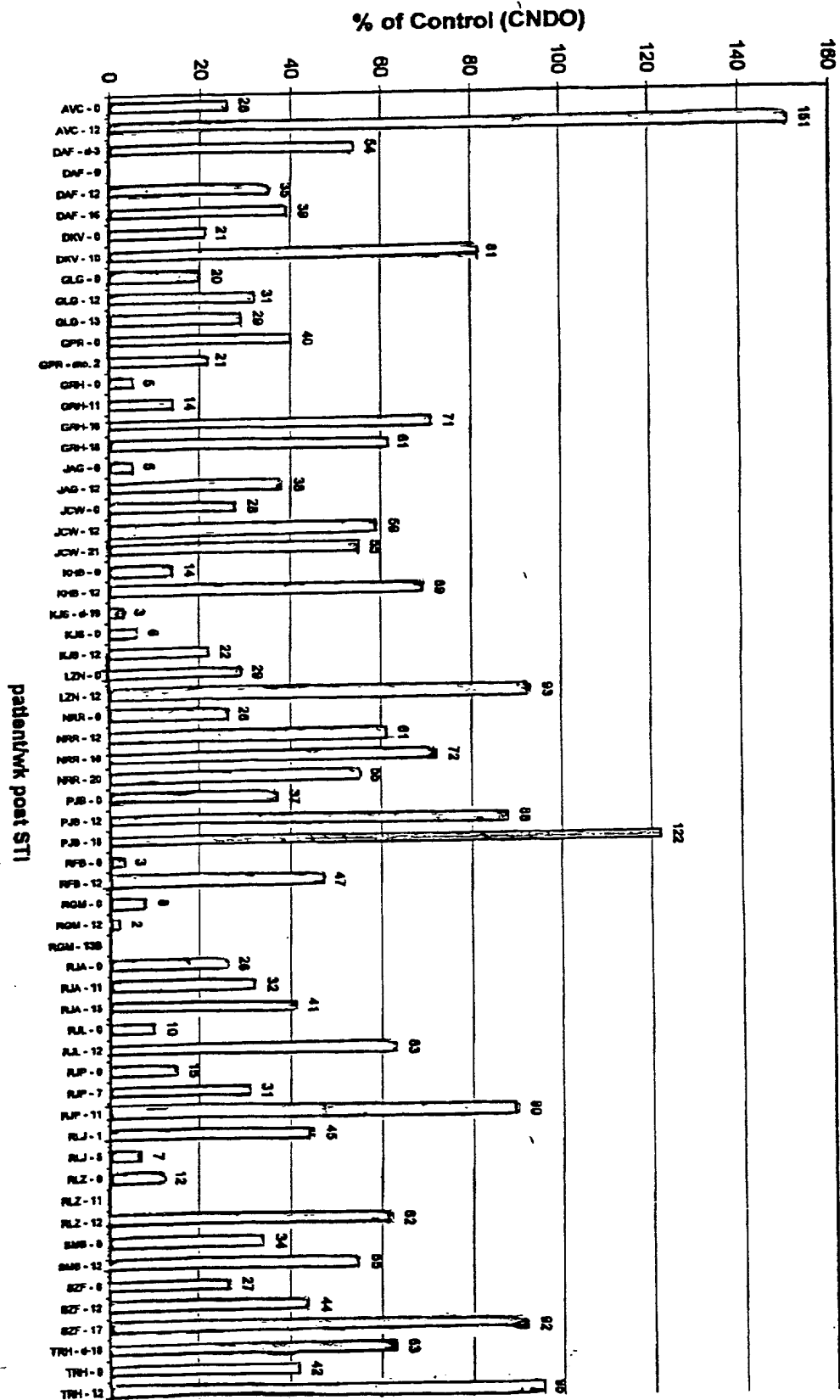
09756344-011904

Figure N: Patient Virus Reversion to Normal Replication Fitness after Treatment Interruption



20/22

Fitness on GCRC STI Samples (wk 0 and 12) - Assay #2
RLU corrected for p24 input (% of control)



09766344 . 01.1901

Figure P:

To Measure Replication Capacity of Patient-Derived Recombinant Viruses

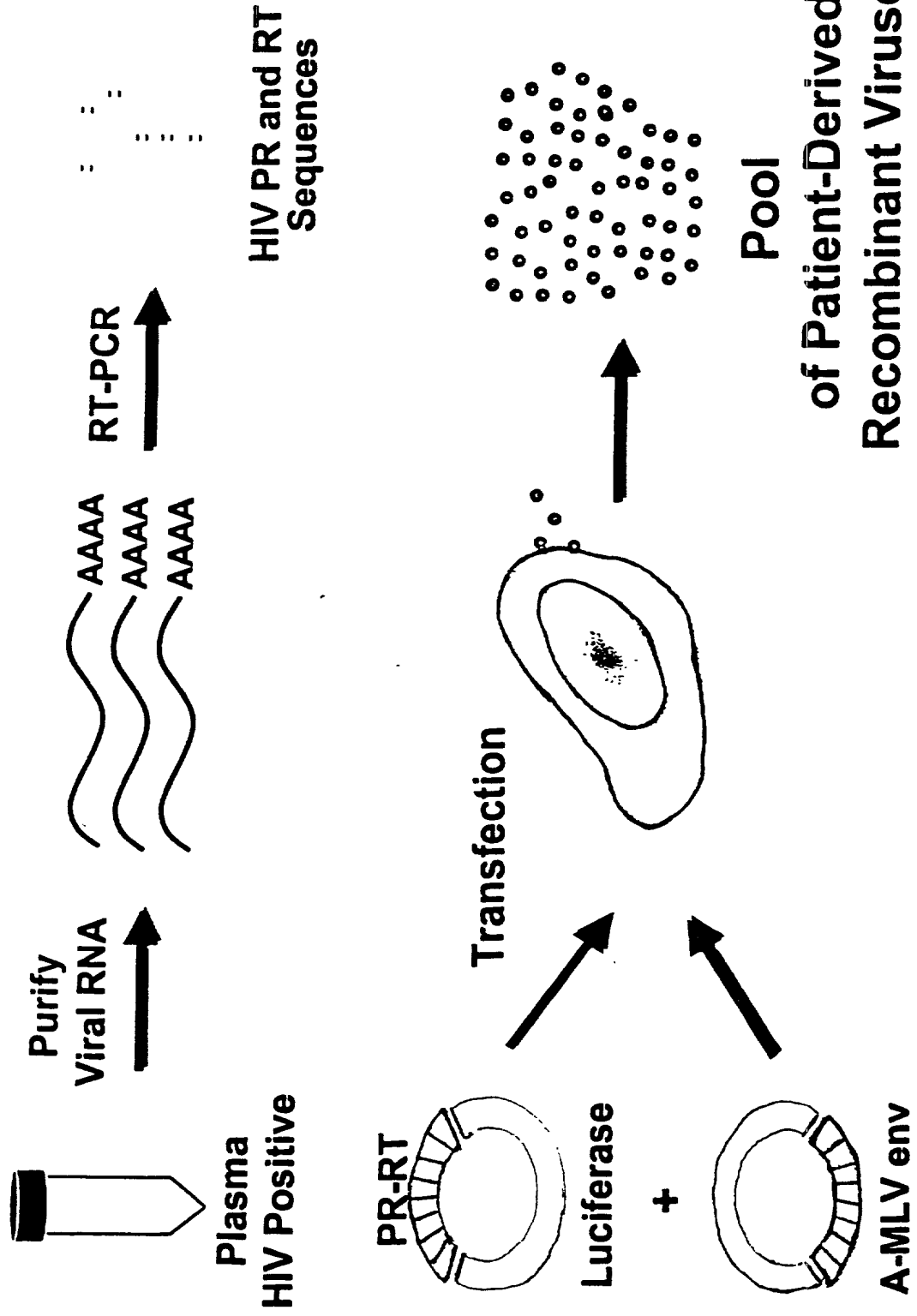


Figure Q:
**To Measure Replication Capacity of
 Patient-Derived Recombinant Viruses**

